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(54) Title: POLYUNSATURATED FATTY ACID MONOVALENT AND DIVALENT METAL SALT SYNTHESIS

(57) Abstract: Disclosed herein are methods for the preparation of a free-flowing, storage-stable fatty acid metal salt product by forming a reactive admixture comprising (a) an unsaturated fatty acid glyceride feedstock; and (b) from about 1 mol to about 3 mol of at least one monovalent metal hydroxide or at least one divalent metal hydroxide; and heating the admixture to a temperature at which said fatty acid glycerides saponify to form fatty acid metals salts; wherein said monovalent metal is potassium; and wherein said divalent metal is selected from the group consisting of calcium, copper, magnesium and zinc. The fatty acid glycerides may be saponified in an atmosphere in which the partial pressure of oxygen has been reduced by an amount effective to provide an improvement in storage stability until a free-flowing, storage-stage product is obtained, or prior to saponification, the fatty acid glycerides may be blended with a stabilizing oil that promotes storage stability, or both. Storage stable metal salts of unsaturated fatty acids prepared by the inventive methods are also disclosed.



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